

SOUND RECORDINGS

Peter Copeland



Sound Recordings

PETER COPELAND



The
British
Library



Orphée, descendant aux Enfers, dédaigne sa lyre et lui préfère le Lloretgraph.



— Où donc avez-vous caché l'orchestre? . .
On l'entend et on ne le voit pas.

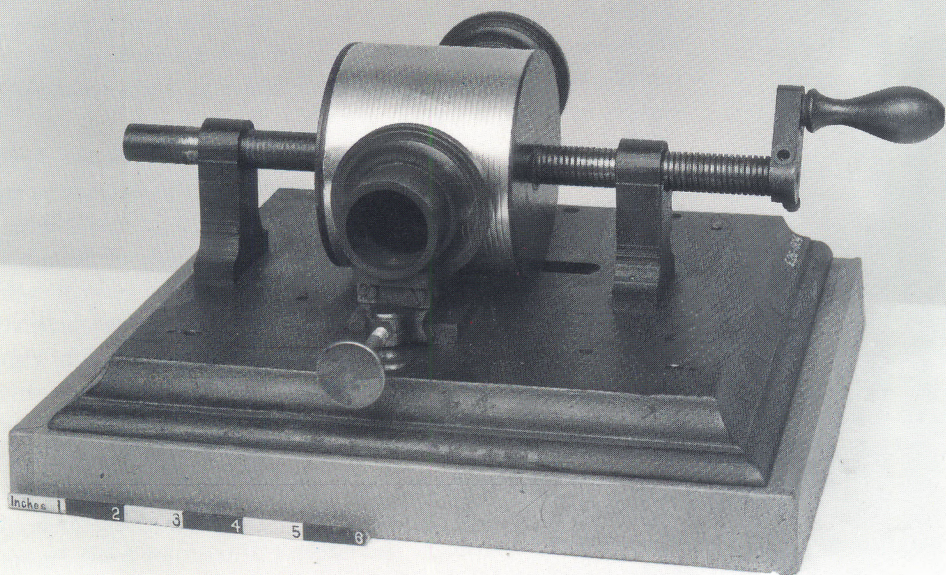
— C'est le Lloretgraph : ses rouleaux sont
inépuisables et on n'a pas besoin d'offrir des
rafraîchissements aux musiciens.

Les jours où les ministres sont absents, le
Président répond aux interpellations avec le
plus puissant des phonographes, le nouveau
Lloretgraph.

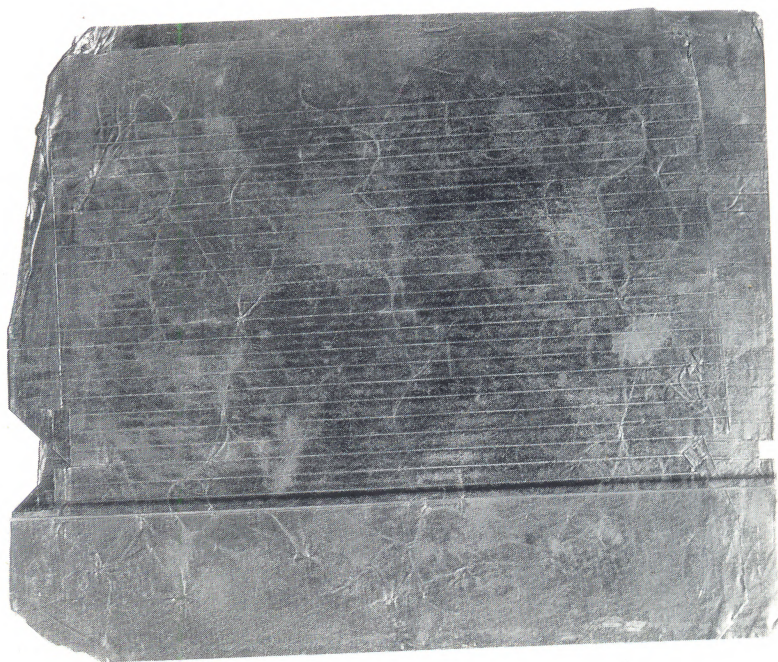
LEFT
Advertisement for Lioret
Phonographs (see also page
61).

RIGHT
Listeners at the National
Sound Archive.





1 The original Tinfoil Phonograph. Built by Kruesi for Thomas Edison in 1877, this machine was on display in the Science Museum in London until its return to America in the 1920s.

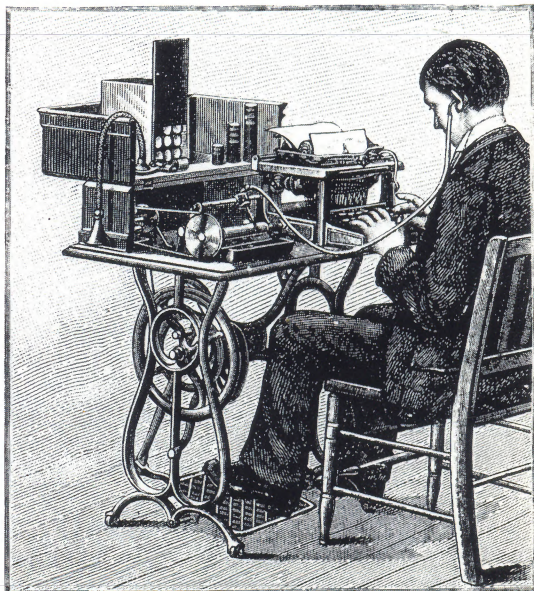
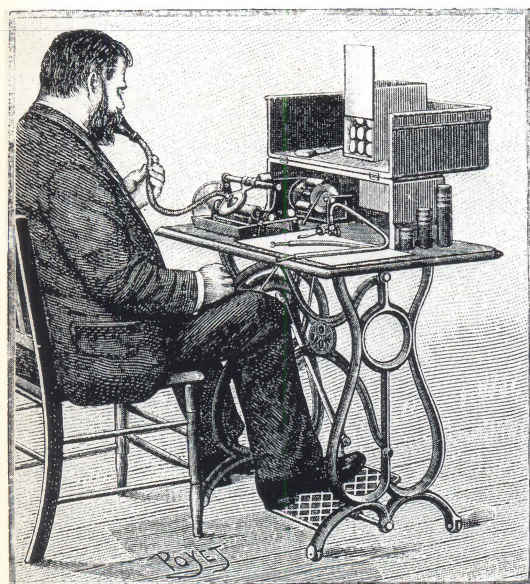


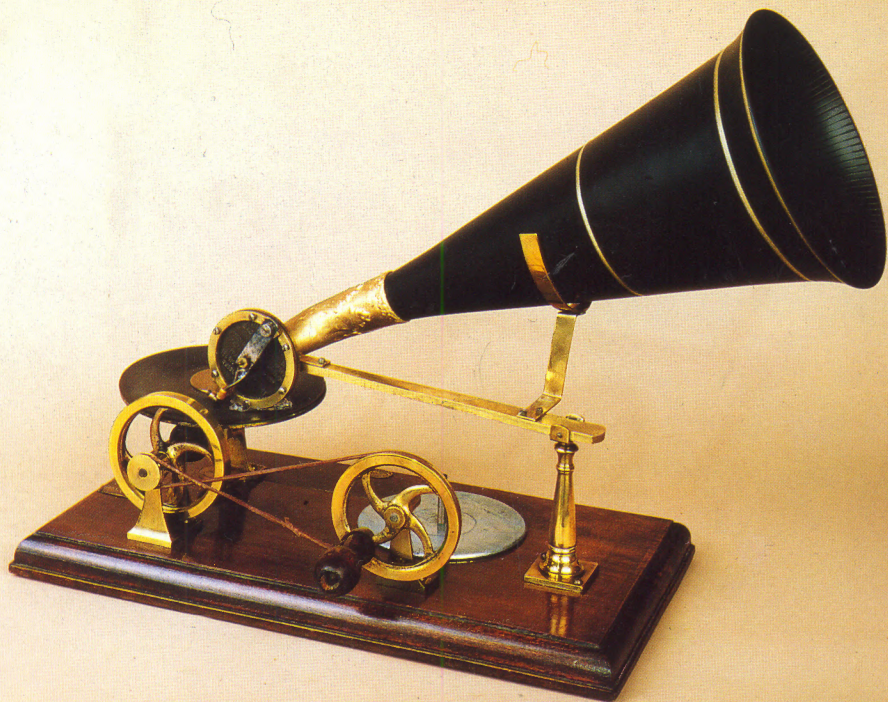


3 The Graphophone.
C. S. Tainter (on the left)
listening to his
'Graphophone', an
improvement on Edison's
Phonograph.

4 Edison and the 'Improved
Phonograph'. This
photograph shows Edison
after three continuous days'
and nights' work on the
machine. For years it was
used in support of Edison's
dictum 'Invention is one per
cent inspiration, ninety nine
percent perspiration'.

5,6 Early office dictation machines. On the left a businessman is dictating a letter to be typed, pedalling at a treadle-powered Graphophone to give better speed control than possible with a hand-crank. On the right the typist is transcribing the spoken letter. In those days most typists were male. However, it happened that the first audio typist in Britain was a woman, Mary Ferguson, who was governess to the children of Colonel Gouraud, Edison's representative in Britain.





7 A Berliner 'Gramophone'. An example of the machine as marketed between 1889 and 1893.

8 Cecil...
making a recording at the

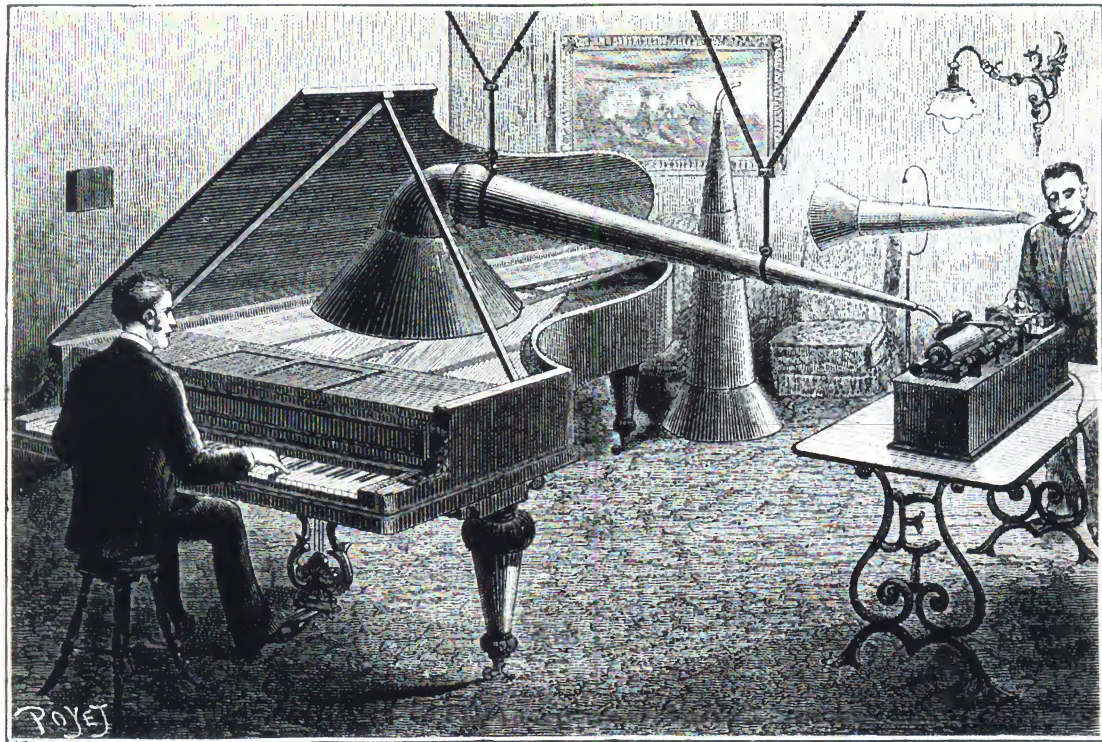


8 Studio recording.

Jacques Urlus, tenor, making a recording at the Edison studio in 1916. By this date the recording machinery was kept behind curtains or screens. This was ostensibly to hide 'trade secrets', although in practice there was little new development taking place.

8a Sir Henry Wood conducting the New Queen's Hall Orchestra in one of Liszt's Hungarian Rhapsodies at Columbia's London recording studio. The date is about 1919, although the record wasn't released until 1921.

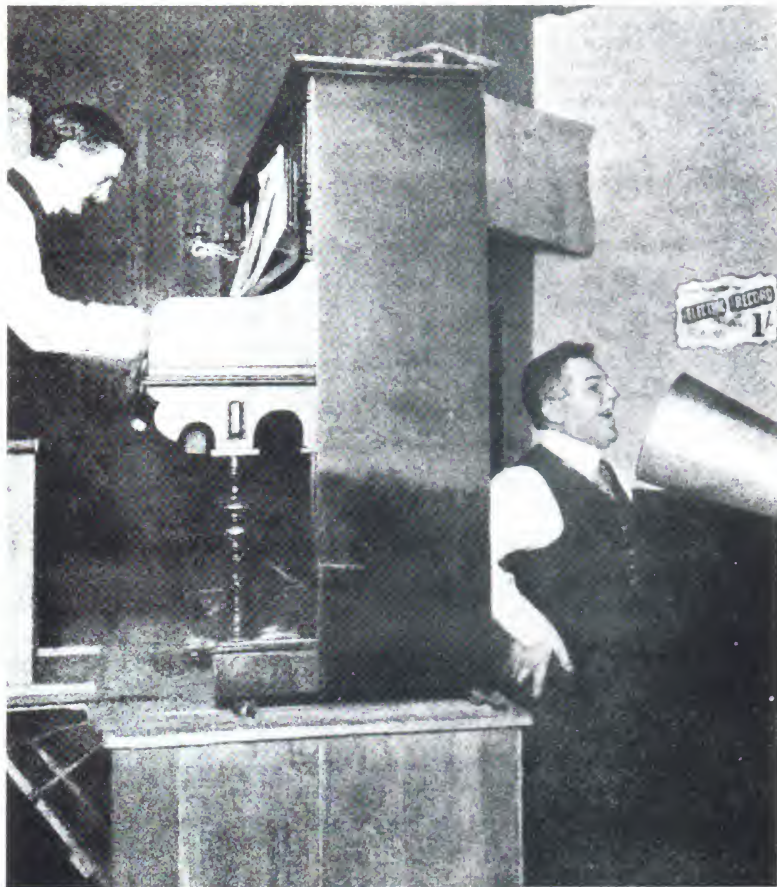




9 Classical piano recording.

An attempt to capture as much sound from a piano as possible. With modern knowledge, we now know that this design of horn would have reflected more sound than it captured!

10 State-of-the-art piano recording. A piano accompaniment being captured in a London recording studio of 1904.





11 Orchestral recording. Sir Edward Elgar conducts 'The Symphony Orchestra' for one of the earliest orchestral records, 10 January 1914. The undesirable 'tinniness' of the horn was tamed by wrapping adhesive tape round it.

12 Label of 'Abide with me' recorded at the Westminster Abbey Burial Service of the Unknown Soldier.

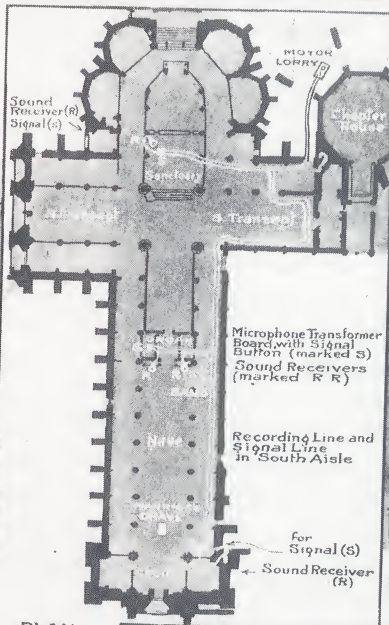
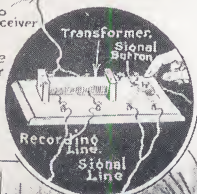
13 *The Illustrated London News* published this illustration of the technology used to produce the Westminster Abbey recording.





Line to Sound Receiver

Showing the Sound Receiver which was fixed to the Crouchbank Gomb in the Sanctuary.



PLAN showing Lines from Receivers to Motor Lorry.

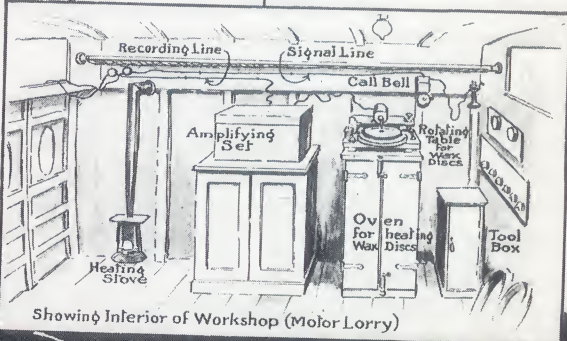


The Lorry outside the Abbey

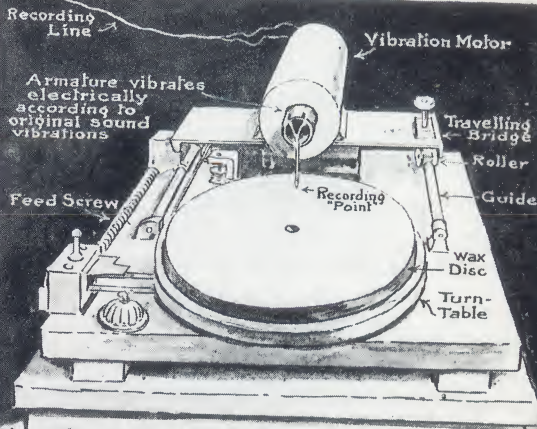


Showing the two Sound Receivers fixed to the Choir Screen in the Nave

Choir



Showing Interior of Workshop (Motor Lorry)



Showing enlarged view of Recording Mechanism.

Ed. Smith



14 A divided orchestra.
Leopold Stokowski
conducts an orchestra which
has been divided into
individually-miked sections
for increased clarity. But
there is a limit to how
much can be done on these
lines, because the sections
have to be able to hear each
other to maintain precise
rhythm.

of the conductor or musical director. One of the earliest collaborators

15 *Blackmail*. A shot taken on the set of Britain's first sound film in 1929. Note that it has been necessary to enclose the camera behind a glass screen to cut down its noise. The director (wearing headphones) is Alfred Hitchcock. The actress, Anny Ondra, had a pronounced Czech accent, so her speech was not recorded synchronously.

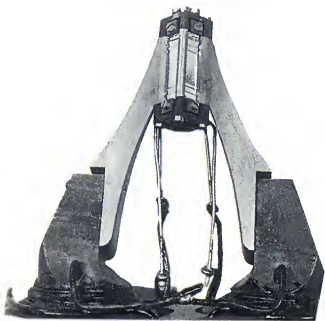


15a 'You ought to have been more careful. Might have cut somebody with that.' Charles Paton's line to Anny Ondra, as she drops the bread-knife during breakfast after the murder. A scene from *Blackmail* (1929)



16 Multi-tracked records. All these records feature artists playing two or more parts. The LP at the back is the supreme example of this, Mike Oldfield's *Tubular Bells*, in which he played all the parts of 45 minutes of music composed by himself. It was issued in 1973.

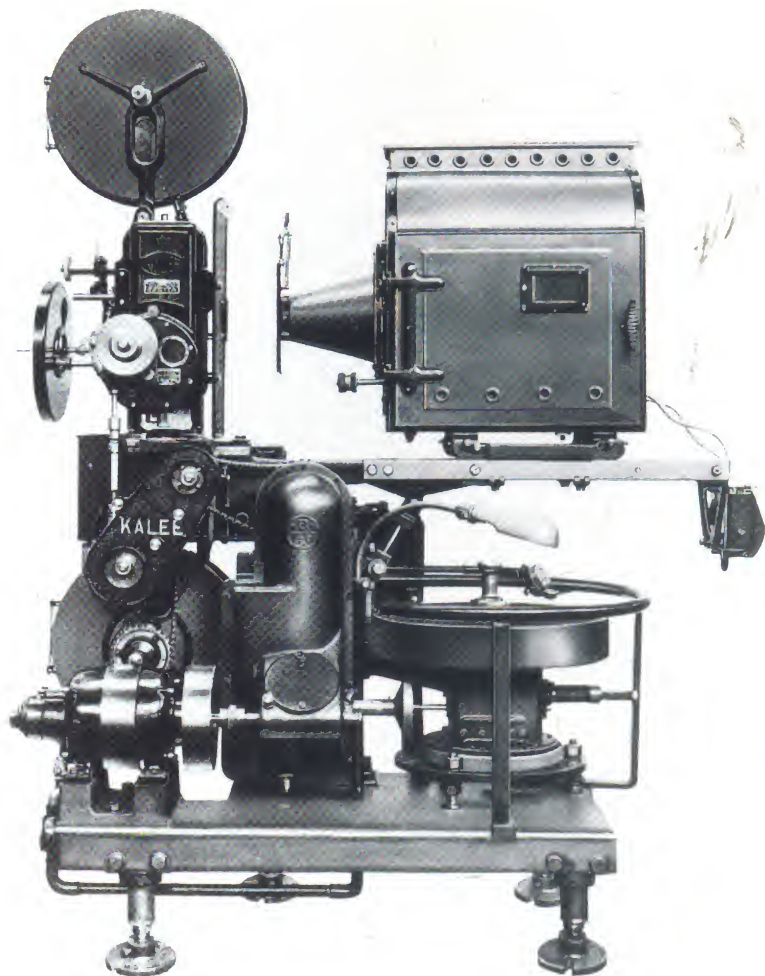




17 The first stereo microphone. Invented by Alan Blumlein in 1931, this comprises two ribbon microphone elements with a common magnet system. The two ribbons are most sensitive to sounds arriving from forty-five degrees on either side of the central axis.

18 Early film projector.

This machine was used in cinemas in the late 1920s. It reproduced the soundtrack from a disc record underneath the lamp housing. Both the projector and the turntable were powered by the same motor to ensure they ran at the same speed. Projectionists had to be very careful to orientate the disc and to put the pickup in the right groove for the sound to be in synchronism.



Brunswick



STYLUS RASIN
(King of the Rubbers, Stylus Rasin)
THE A. Z. SYSTEM
Largest Production of
Master Records
2100-4

THE OLD METHOD
of Recording and
Reproducing

2100-125 2000-10000 21000-21000

Mechanical Recording

2100-125 2000-10000 21000-21000

Mechanical Reproduction

The range of mechanical recording systems is limited for the time being to the 2100-125 system. It is not possible to produce a record of the same quality as the 2100-125 system. It is not possible to produce a record of the same quality as the 2100-125 system. It is not possible to produce a record of the same quality as the 2100-125 system.

THE NEW METHOD
of Recording and
Reproducing

2100-125 2000-10000 21000-21000

Electrical Recording

2100-125 2000-10000 21000-21000

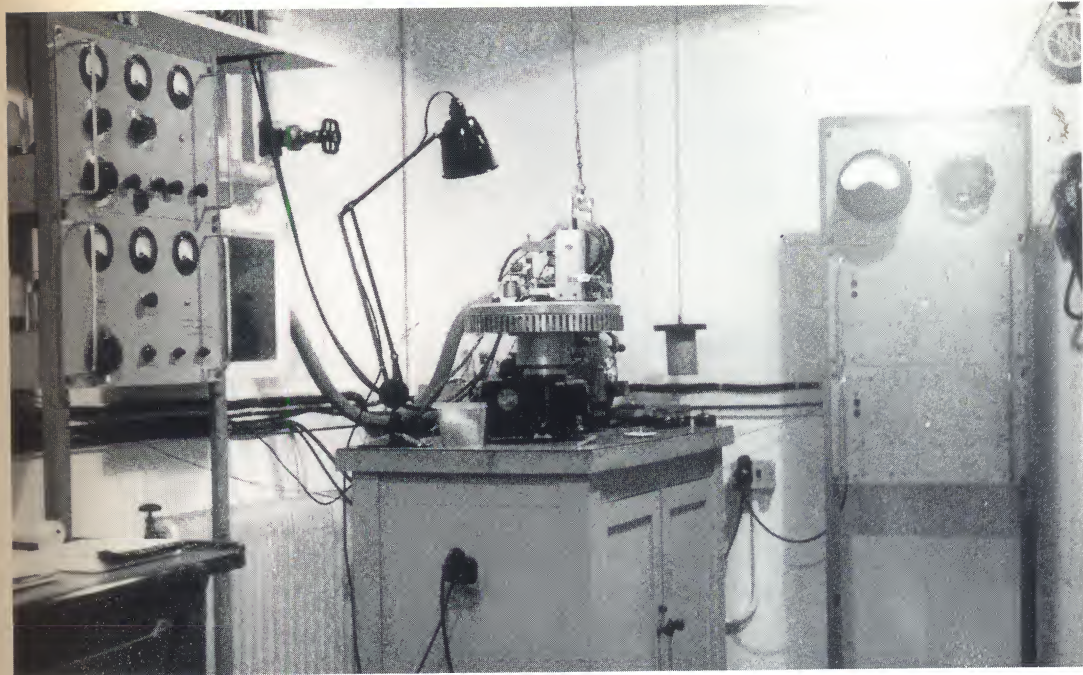
Electrical Reproduction

The range of electrical recording systems is unlimited for the time being. It is possible to produce a record of the same quality as the 2100-125 system. It is possible to produce a record of the same quality as the 2100-125 system. It is possible to produce a record of the same quality as the 2100-125 system.

**ELECTRICAL
LIGHT RAY PROCESS
RECORDS**

BRITISH BRUNSWICK LTD
LONDON

10000 - 21000
Electric Light Pay Reproduction



20 Decca 'ffrr' disc recorder. The world's first machine capable of recording the full frequency range of the human ear. Most of the cutter comprised a powerful electromagnet, hanging over the turntable from the ceiling because of its weight.

21 Steel-tape magnetic recorder, as used by the BBC in the 1930s.

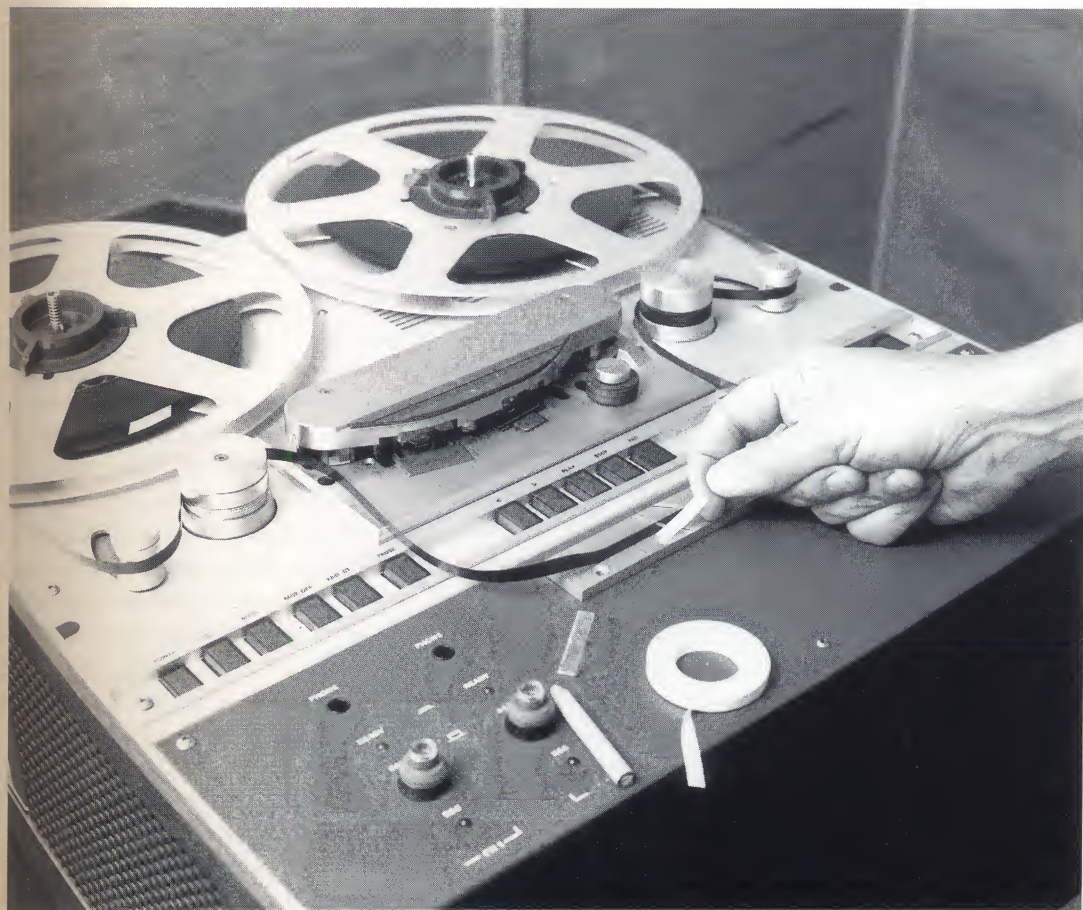




22 An AEG magnetic recorder. This model was first exhibited at the German Radio Exhibition in August 1934. It could record upon 'normal' recording tape, comprising a coating of ferric oxide on a non-magnetic base.

may lower running costs, because the tape could be magnetically

23 Tape-editing today. The editor is about to splice two pieces of tape, which he has marked with yellow pencil and cut with a razor blade. Adhesive splicing-tape is applied to the back, so the oxide surface remains uninterrupted.



24 'Quadruplex' video recorder. This type of machine was used for the digital sound recordings made by the Nippon Columbia company in 1972, instead of for video.





25 Berliner disc 'label'. No paper label was used; instead the information was engraved into the master-disc and reproduced on every copy together with the sound. The title is the very last word scratched on the master, in this case 'Loriley', a traditional German melody.



26 Berliner disc. This was one of the first disc records to be marketed in Britain. It is five inches in diameter and single-sided, and comprises 'The Lord's Prayer'. This was a popular title in the early talking-machine industry. Everyone knew the words, so they could follow the distorted reproduction successfully.



27 Cylinder boxes. The ends of cylinder boxes carried the nearest the cylinder format ever got to labels.

28 Paper labels for discs. The left-hand record carries an example of the first type of paper label for discs, introduced in 1901. The right-hand record carries an early example of a 'red label'. They sold for twice the price of a 'black label' record.



29 Ends of cylinder records,
showing the lettering styles
used by different
manufacturers.



30 Pathé disc label.







31 (a to j) The Gramophone Company class system. All these records are twelve inches in diameter and were made by the Gramophone Company of Great Britain between 1920 and 1925. The different coloured labels represent different prices, which in turn reflected the eminence of the performer(s). Quantity as well as quality entered this calculation; the buff label (31f) featured two 'Red Label' artists, the pale green (31g) featured four, and the white (31i) four on one side and six on the other. But the top of the range featured the solo tenor Francesco Tamagno. He was the first artist to insist upon royalty payments, and his contract stipulated that the records should be retailed at £1.00 each. He made his recordings in 1904 and died a year later; by 1925 they had been moved to the 'Historic Catalogue'.

32 Edison 'diamond disc'
label.





33 (a to d) Unusual labels. These records were given conventional catalogue numbers and were sold at normal prices, but they have special label designs.



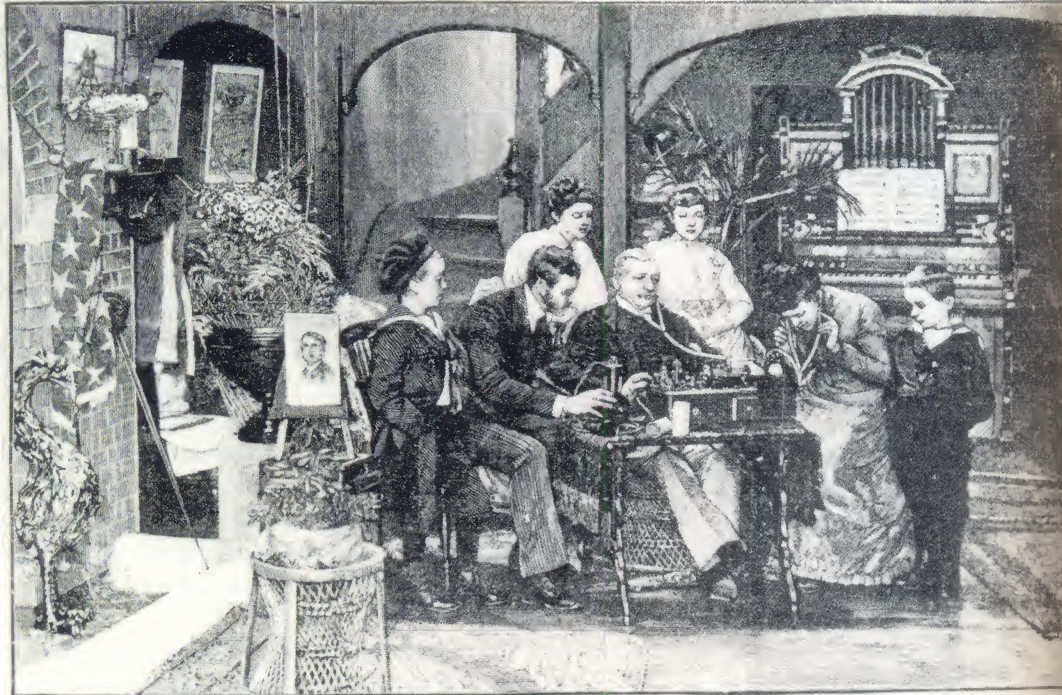
34 The first record by a reigning British Monarch.

35 'Triangle centre' record
(Brunswick 45-05688).



36 A paperless label, used on seven-inch singles from 1975 onwards, in a surprising reversion to Berliner's technique.





37 Little Menlo. From his house in south London, called 'Little Menlo' after Edison's laboratory at Menlo Park in America, Colonel Gouraud promoted the works of the great inventor. He and his assistants captured the voices of many famous people during the Victorian era.

...ceded by the BBC Sound Archive in 1982; at any rate, it comprises

Disc number with no mark indicates 7-in. and 10-in.

*preceding disc number indicates 10-in. only.

†preceding disc number indicates 7-in. only.

Miscellaneous

- 833 Address by the Late President McKinley at the Pan-American Exposition
- 851 Dissertation on Love
- †854 Football Match
- 855 How I Got to Morrow
- 296 How Rogers Brothers Play Golf
- 160 Lincoln's Speech at Gettysburg
- 162 Little Red Riding Hood
- 35 Negro Sermon, A
- 844 On Mutton Pies
- 845 On Sweethearts
- 847 On Trousers
- 850 Political Meeting, A
- 34 Stump Speech on Love
- 664 Twenty-third Psalm, and the Lord's Prayer, The
- 849 Women's Rights Meeting

Dutch Dialect Series

- †26 Schultz on the Man Behind the Gun
- 28 Schultz on Christian Science
- 24 Schultz on George Washington
- 23 Schultz on Kissing
- 25 Schultz on Malaria
- 27 Schultz's Trip to Chicago

By Joseph Jefferson

- *1469 Rip Meets Meenie after Twenty years Absence (from "Rip Van Winkle")
- *1468 Scene in the Mountain (from Second Act, "Rip Van Winkle")

Uncle Josh Weathersby's Laughing Stories

- 70 Arrival in New York, Uncle Josh's
- 1518 Automobile, Uncle Josh on an (a new one by Stewart. Very laughable. Bound to be a seller)
- 1506 Baptizing at Hickory Corners Church, Uncle Josh at a
- 71 Base Ball Game, Uncle Josh at a
- 72 Bicycle, Uncle Josh on a
- 1408 Camp Meeting, Uncle Josh at a
- 1490 Chinese Laundry, Uncle Josh in a

***Our records can be used on ANY
MAKE of disc talking machine.***

39 Coronation record, 1911.



40 Not stereophonic! André Previn is now better known as an orchestral conductor.



41 (a and b)
 Advertisements from 1925.
 The one on the left
 promotes a genuine
 electrical recording success;
 the one on the right
 attempts to capitalize on it,
 although recorded
 acoustically.

This Month's Columbia Sensation!

4850

**SINGING VOICES
 ON ONE RECORD**

An Amazing 12-inch Record of "Adeste
 Fideles" sung by 4850 Voices in the
 Metropolitan Opera House, New York

ASK TO HEAR IT
 12-inch RECORD No. 9046

4850 VOICES - AND IT SOUNDS LIKE IT

Columbia
New Process
RECORDS

Columbia
 Records
 MAGNAPHONE
 TALKING RECORDS

-and
 on the
 Reverse
 Side -
**JOHN
 PEEL**
Sung by
**850
 VOICES**

Another Record!



Mr & Mrs
Brown
AT THE
Football
Match

4851

VOICES?

HEARD ON THIS RECORD - IF YOU
DON'T BELIEVE IT - COUNT 'EM!

Edison Bell Winner Record



123456
7891011
12345678
910111213
1415161718
1920212223
2425262728
2930313233

515354
5255
5756
5879
6166
6263646566
676869707172
73747576777879
8081828384858687
88899091929394
9596979899100101102103104105106107108109110111112113114115116117118119120121122123124125126127128129130131132133134135136137138139140141142143144145146147148149150151152153154155156157158159160161162163164165166167168169170171172173174175176177178179180181182183184185186187188189190191192193194195196197198199200

Ask for
N°4295

One long PEAL of laughter &
A Really FAITHFUL Reproduction.

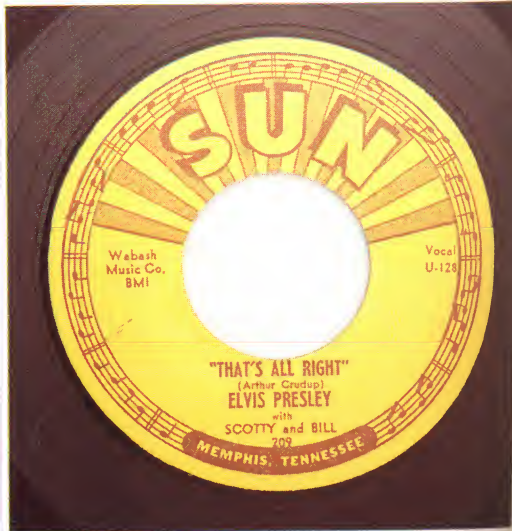
The most astounding record of the season. A wonderful piece of realism. Not only do you get the massed volume of the voices but the real atmosphere of a football field as well.

No mechanical blatancy but a faithful "stereoscopic" reproduction—each voice is recorded so distinctly that you can almost hear separately the whole FOUR THOUSAND EIGHT HUNDRED AND FIFTY-ONE odd voices—and it sounds like more.

ON SALE
BY THE
LEADING
DEALERS.

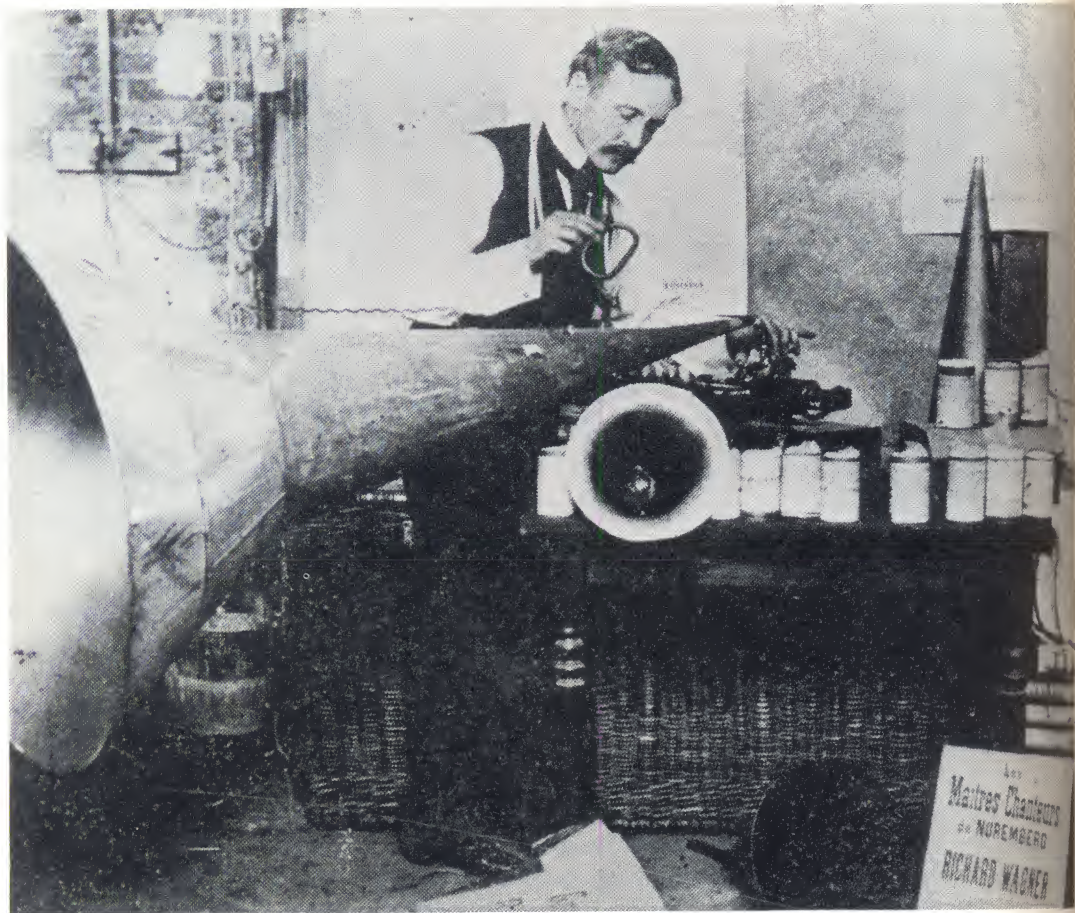
J.E. HOUGH Ltd. Edison Bell Works, London, SE15.

Use CHROMIC Needles on ALL Your Records.



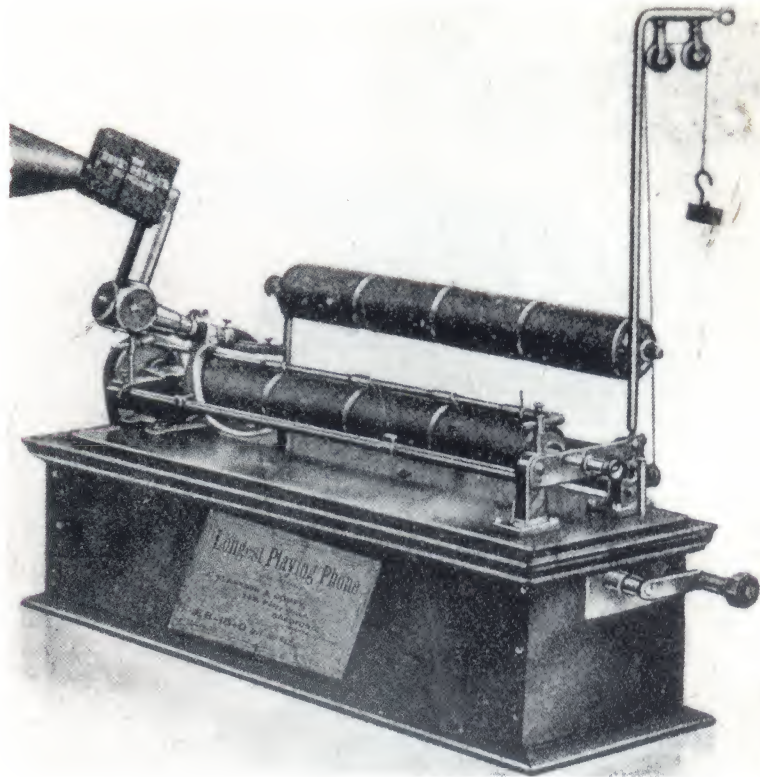
42 Which copy of this 1955 record by Elvis is original, and which is a forgery? A genuine one always has three tiny depressions one-quarter of an inch in diameter close to the centre-hole. (You need oblique light to show them; there is one beneath the bottom right of the letter U of SUN, for example). This is because the original master-lacquer had three extra drive-holes, which had to be filled in before the stampers could be made. Master-lacquers don't normally have extra drive-holes, and this point was missed by the first forgers. But since then, other forgeries have appeared complete with drive-hole marks.

techniques, but it is the exception which drives the rule. The



43 Lionel Mapelson,
photographed backstage at
the Metropolitan Opera
House, New York. Using
this giant horn, he captured
live operatic performances
on cylinders during the
years 1900 - 1902.

44 Longest-playing phone.
A machine dating from
1908 which was designed to
give eight minutes of
reproduction from cylinder
records.

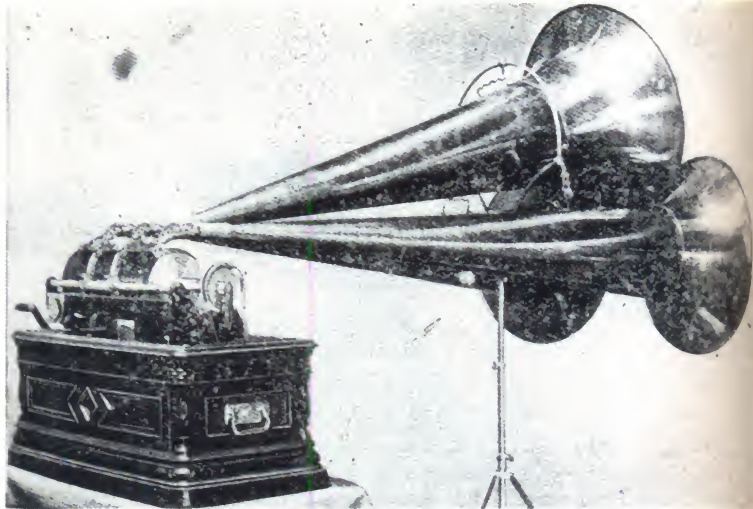


45 The Edison 'Voice Writer' machine. Designed for office dictation use, this machine followed Edison's preferred method of using electricity for the motor, but it had acoustic recording and reproduction.





47 The Columbia
Multiplex Grand
Phonograph.



RECORD-BREAKING MARATHON RECORDS.



16 minutes 25 seconds

Is the playing time of
12-inch disc No. 2042.

Mr. T. KINNIBURGH. Basso. Piano Accomp.

2042. (a) True Till Death ; (b) In Cellar Cool.
(a) Rocked in the Cradle ; (b) In Sheltered Vale.

FOUR complete songs, two on each side, reproduced with that wonderful naturalness which has resulted in "Marathon" Records being described as "The Records with the Soul Preserved." The actual playing times at 80 revs. per minute are :—

"True Till Death"	3 min. 55 seconds.
"In Cellar Cool"	4 minutes 30 seconds.
"Rocked in the Cradle"	3 minutes 45 seconds.
"In Sheltered Vale"	4 minutes 15 seconds.

12 minutes 25 seconds

On a 10-inch disc is an equally marvellous achievement in recording. This is the playing time of 10-inch No. 388.

Mr. T. KINNIBURGH. Basso. Piano Accomp.

388. The Bellringer.
The Village Blacksmith.

The actual times at 80 revs. per minute are :—

"The Bellringer"	6 minutes 40 seconds.
"The Village Blacksmith"	5 minutes 45 seconds.

THESE amazing records are absolutely unequalled as a recording achievement. They conclusively prove that not only does the purchaser of "Marathon" Records get more music, but he gets infinitely better music.



49 World record controller.
This is the mechanism on the left of the picture. In this case, it has been fitted to an HMV Gramophone; it controls the rotational speed of the disc so it runs slowly when the soundbox is at the outside edge, and allows the record to speed up towards the inner radius.

the one in the left, the shown as the section, which combined it with

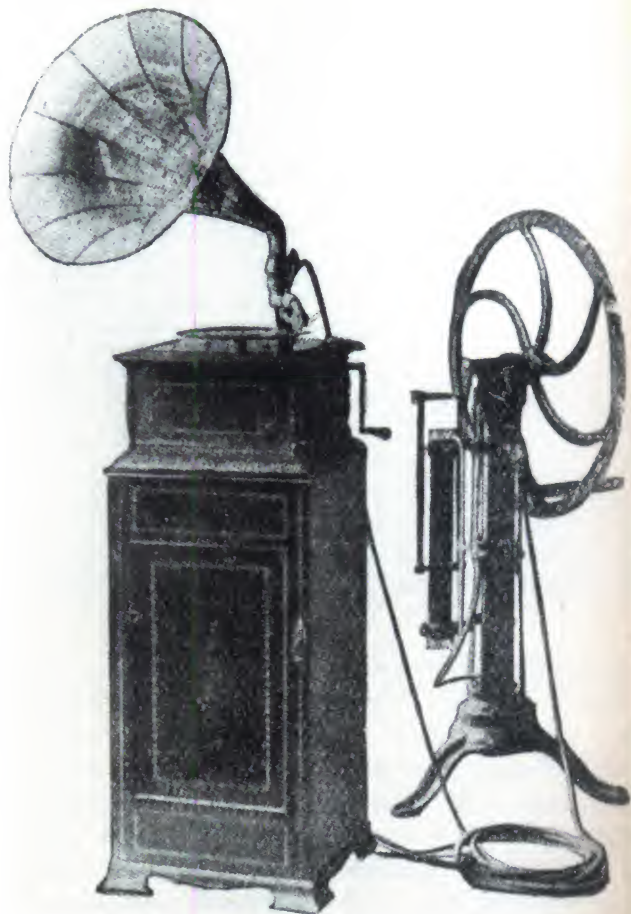
50 A twenty-inch Pathé disc. This example plays for 3 minutes 10 seconds and weighs 2.2 kilograms.



51 Doll's House Disc. On this example, Peter Dawson's rendition of 'God Save The King' plays for 22 seconds. It weighs 200 milligrams.



52 Gramophone with
Auxetophone attachment.
This model has a
hand-pump for the
amplifier. Since the
turntable had a clockwork
winding mechanism and the
air-pump demanded
continuous cranking while
the disc played, you had to
be fit to play a record!





53 An unusual record combining the qualities of a 'picture disc' (on the back), with a special label design (on the front).



54 An Edison-Bell Picturegram of 1927, an early attempt at audio-visual entertainment. The record tells a story, complemented by a picture scroll. The machine was easy to damage and was not a huge success.



55 An example of evocative advertising used to sell the Edison Amberola Phonograph (see also back cover).



THE DEAR OLD "HEART SONGS," PLAYED ON THE EDISON, RECALL TO GRANDMOTHER AND GRANDFATHER THE DAYS WHEN THEY WERE YOUNG

An Event...

ATTENTION!

This motion picture will be shown
in the startling new multi-
dimension of

SENSURROUND

Please be aware
that you will *feel* as well as see
and hear realistic effects such as might be
experienced in an actual earthquake.

We assume no responsibility for the
physical or emotional reactions of the
individual viewer.

Starring

CHARLTON HESTON

AVA GARDNER · GEORGE KENNEDY

LORNE GREENE · GENEVIEVE BUJOLD · RICHARD ROUNDTREE

Co-starring MARJOE GORTNER · BARRY SULLIVAN · LLOYD NOLAN · VICTORIA PRINCIPAL

Written by GEORGE FOX and MARIO PUZO Music by JOHN WILLIAMS Produced and Directed by MARK ROBSON

Executive Producer JENNINGS LANG · A MARK ROBSON-FILMMAKERS GROUP PRODUCTION

IN THEATERS
A UNIVERSAL PICTURE - TECHNICOLOR® PARAVISION™, CSM A
DISTRIBUTED BY CINEMA INTERNATIONAL CORPORATION

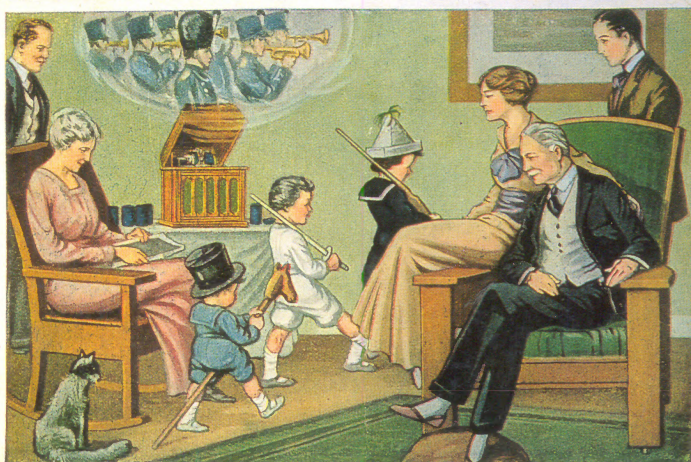


57 Sensationalist
promotion of a new film
and a new experience.

extended by the 'Sensurround' system (57). This was a powerful
low-frequency sound system which blasted the audience with low-
frequency pulses and physically shook them. In conjunction with
switchable unsteady camerawork, the effect aimed to recreate the



WHEN they go back to the "studio" after dinner they find that Daddy has put the gramophone and some nice records there. "How jolly!" says Steve; "now we can have a RECORD TIME." They move the mike close to the gramophone, and then each in turn chooses a favourite record to be put on; and they pretend that millions of people are enjoying the programme, listening to some of the dear old tunes that everybody likes.



THE POSSESSION OF AN EDISON WILL MAKE YOUR HOME LIKE THIS. HOW CAN YOU AFFORD TO BE WITHOUT ONE?

Sound recording has been with us for over a hundred years, and its impact on communication in the 20th century has been enormous.

In this stimulating survey of the history of sound recording, from the work of the earliest pioneers to the latest developments in the industry, Peter Copeland discusses the recordings themselves and the artistic and commercial considerations that have shaped them, addressing technical issues in an accessible manner, with many illuminating anecdotes.

Illustrated with over 60 colour and black-and-white photographs drawn from the collections of the National Sound Archive, *Sound Recordings* is a lively and informative introduction to the subject for record collectors and enthusiasts and anyone with an interest in the background to the music and film industries.

Peter Copeland is a recording engineer and is Conservation Manager at The British Library National Sound Archive.

THE BRITISH LIBRARY

£ 6.95

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